Title	***SR and Injector Flag Upgrade***			
Project Requestor	William Berg			
Date	02/28/2008			
Group Leader(s)	Glenn Decker			
Machine Manager	Nicholas Sereno			
Category	Spare / Obsolescence			
Content ID*	APS_XXXXXX	Rev.	ICMS_Revision	ICMS Document Date

*This row is filled in automatically on check in to ICMS. See Note [1]

Description:

Start Year (FY)	**2009**	**Duration (Yr)**	**4**

Objectives:

Design and implement upgrades to the storage ring (SR) and injector flag systems for replacement of obsolete/damaged components and to provide improved system performance.

Benefit:

This upgrade will provide improved beam profile measurement capabilities, controls interface, and system reliability.

Risks of Project: See Note [2]

Very limited impact. Access to the beam line vacuum system is required for the upgrade of the scintillator components. This type of access would be considered routine.

Consequences of Not Doing Project: See Note [3]

The radiation damaged imagers, obsolete components, system design deficiencies, and deteriorated shielding give rise to insufficient beam analysis capabilities for current support of operations/studies and greatly diminish our ability to provide appropriate maintenance and repair of these systems.

Cost/Benefit Analysis: See Note [4]

Upgrade would improve operation's ability to quantify beam parameters and to reliably and consistently deliver the highest beam quality.

Description:

Upgrade existing radiation damaged/obsolete SR and injector flag systems so quantitative data can be taken to improve machine operations. Improvements include: replacing Chromox scintillators with YAG crystals, replace CCD cameras, upgrades to the optical transports, illumination, controls/read back, shrouding, and radiation shielding.

The duration of this project is 4 years and scope of work during these 4 years is to replace all storage ring flags (10); Injector flags (24) (3 in LTP, 6 in PAR, 3 in PTB, 5 in Booster, 6 in BTS, 1 in BTX lines). Plan is to design, produce, and test base prototype systems in the first year. Then follow with machine specific production drawings and fabrication. Implementation would be on a graded approached based on usage priority, manpower availability, and scheduled access into the machines vacuum systems.

Funding Details

Cost: ($K)
Use FY08 dollars.

Year	AIP	Contingency
1	100	
2	100	
3	100	
4	100	
5		
6		
7		
8		
9		
Total	400	

Contingency may be in dollars or percent. Enter figure for total project contingency.

Effort: (FTE)
The effort portion need not be filled out in detail by March 28

Year	Mechanical Engineer	Electrical Engineer	Physicist	Software Engineer	Tech	Designer	Post Doc	Total
1	0.5	0.25		0.25	0.5	0.5		2
2	0.5	0.25		0.25	0.5	0.5		2
3								0
4								0
5								0
6								0
7								0
8								0
9								0

[1] **Notes:**

ICMS. Check in first revision to ICMS as a *New Check In*. Subsequent revisions should be checked in as revisions to that document i.e. C*heck Out* the previous version and C*heck In* the new version. Be sure to complete the *Document Date* field on the check in screen.

[2] **Risk Assessment.** Advise of the potential impact to the facility or operations that may result as a consequence of performing the proposed activity. Example: If the proposed project is undertaken then other systems impacted by the work include ... (If no assessment is appropriate then enter NA.)

[3] **Consequence Assessment.** Advise of the potential consequences to the facility or to operations if the proposal is not executed. Example: If the proposed project is not undertaken then ____ may happen to the facility. (If no assessment is appropriate then enter NA.)

[4] **Cost Benefit Analysis.** Describe cost efficiencies or value of the risk mitigated by the expenditure.

Example: Failure to complete this maintenance project will result in increased total costs to the APS for emergency repairs and this investment of ___ will also result in improved reliability of ____. (If no assessment is appropriate then enter NA.)